

REMARKS

Claims 1-7, 23, 25-27 and 32-34 are currently pending in the subject application and are presently under consideration.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments herein.

I. Rejection of Claims 1-7, 23, 25-27 and 32-34 Under 35 U.S.C. §103(a)

Claims 1-7, 23, 25-27 and 32-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dhindsa, *et al.* (US 5,740,016) in view of Saika (6,573,596) and Morris *et al.* (US 6,230,497). Withdrawal of this rejection is requested in view of at least the following. Dhindsa, *et al.* does not teach or suggest all aspects recited in the subject claims.

The claimed subject matter generally relates to regulating heat in an integrated circuit device, and in particular to removing generated heat from hot spot areas. To this end independent claims 1, 7 and 34 recite similar features namely: *at least one of the plurality of the thermoelectric structures has a distribution of line patterns that is denser towards center of its structure and decreases in density towards outer limits of the structure wherein the at least one thermoelectric structure is coupled to an associated hot spot.* The cited art does not teach or suggest such claimed aspects.

Dhindsa, *et al.* relates to a solid state temperature controlled substrate support for maintaining a desired temperature distribution across a substrate during processing in semiconductor equipment. Accordingly, it teaches a temperature controlled substrate support included in a semiconductor processing system for processing a substrate. A substrate resting on the substrate support surface is inserted into a processing chamber and processed to produce integrated chips. The substrate support includes a plurality of thermoelectric modules and by controlling the current supply to each of these modules to provide temperature uniformity across the substrate during processing (*See Dhindsa, et al.* col.2 lines 35-55). Thus, Dhindsa, *et al.* relates to maintaining temperature uniformity during production of integrated chips as the substrate support surface bearing the thermo-electric modules is used in the processing chamber. However, it does not teach or suggest including the thermoelectric structures into the integrated circuit in order to prevent formation of hot-spots as recited in the subject claims. Moreover, as conceded on page 3 of the Final Office Action dated June 16, 2008, Dhindsa, *et al.* does not

teach or suggest a specific structure for each thermoelectric structure. A broad assertion that a plurality of thermoelectric modules can be arranged in any particular manner cannot teach a specific form for an individual thermoelectric structure as recited in the subject claims.

On page 3 of the Final Office Action dated June 16, 2008 the Examiner acknowledges that Dhindsa, *et al.* fails to disclose or suggest that ***at least one of the plurality of the thermoelectric structures has a distribution of line patterns that is denser towards center of its structure and decreases in density towards outer limits of the structure*** and offers Saika to cure this short-coming. However, Saika fails to make up for this and for all aforementioned deficiencies of Dhindsa, *et al.* as recited in claim 1 (and similarly claims 7 and 34).

The Examiner argues that Saika discloses the subject claim at col. 6, ll. 15-26. Applicant's representative respectfully disagrees with such contention. The cited passage relates to different dispositions for a plurality of Peltier devices in a thermo module. The cited passage makes no reference to a thermoelectric structure ***having a distribution of line patterns that is denser towards center of its structure and decreases in density towards outer limits of the structure*** as recited in independent claim 1. The cited passage merely discloses disposing a plurality of Peltier devices and the installation density of the Peltier devices but fails to teach or suggest the thermoelectric structure ***with a distribution of line patterns*** as recited in independent claim 1. In contrast, the subject claims relate to a thermoelectric structure couple with an associate hot spot with a pattern made up of ***denser distribution of lines at the center and less dense line patterns*** at the outer edges of the structure. Saika fails to teach nor suggest such ***line patterns***.

In view of at least the foregoing, it is respectfully requested that this rejection be withdrawn with respect to independent claims, 1, 7, 34 as well as all claims that depend there from.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [AMDP812US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

AMIN, TUROCY & CALVIN, LLP

/Himanshu S. Amin/

Himanshu S. Amin

Reg. No. 40,894

AMIN, TUROCY & CALVIN, LLP
24TH Floor, National City Center
1900 E. 9TH Street
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731